

MEMO

State of New Jersey
Department of Environmental Protection
Division of Water Resources

TO Commissioner David J. Bardin

FROM Mr. John Wilford, Chief, Bureau of Potable Water DATE June 11, 1974

SUBJECT Contaminated Individual Wells, Dover Township

I am disturbed by the inaccuracies in the attached news item which appeared in the Trenton Times on June 10, 1974. I did not "condemn" the Dover Township and Ocean County Health Department Officials for delaying notification to the affected families that their wells had been contaminated with potentially-hazardous petrochemicals. The facts of the matter are as follows.

About two months ago I was approached by Mr. Charles Kauffman, Health Officer, Ocean County Health Department, who advised me that there was some indication that a number of individual wells in Dover Township might be contaminated with chemicals dumped many years ago by an individual who conducted a drum-cleaning and recovery operation on contract from the Union Carbide Company. Mr. Kauffman requested the services of the State laboratory to run samples which he proposed to take, and I was able to arrange limited services for him through the Bureau of Chemistry.

At a Health Officers' Conference last week, at which Mr. Don Brown and myself participated in a panel discussion, Mr. Kauffman approached us and indicated that, on the basis of samples collected, it appeared that some of the individual wells were contaminated with hydrocarbons, and requested that we review his findings and offer advice as to what his further actions should be. In a crowded conference room it was not propitious to properly evaluate the situation, so it was suggested to Mr. Kauffman that he arrange to meet with representatives of the Division of Water Resources at a more-opportune time. I did mention, however, that tests solely for hydrocarbons might not necessarily be indicative of the real problem because the hydrocarbons were presumably used as a solvent for cleaning residues from the drums and the nature of those residues would probably be more important. I suggested that he contact Union Carbide in an endeavor to determine the nature of the chemicals that might have been stored in the drums so that appropriate determinations can be made on samples of water from the wells.

I do not know who released the information to the newspapers. There was certainly no press release issued by this Department. In any event, on Friday, June 7 I received a number of telephone calls from newspaper reporters, and answered their questions to the best of my ability. At no time, however, did I criticize the County Health Department, nor did I mention cancer or any other specific disease. I did not receive any call from the Trenton Times and therefore cannot understand how they can attribute me with a direct quote.

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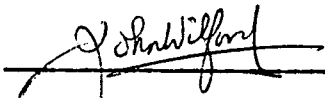
N.J. STATE DEPT. OF ENVIRONMENTAL PROTECTION
BUREAU OF POTABLE WATER

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The article is a "good" example of irresponsible journalism which helps destroy the credibility of this Department with local health officials for whom, albeit with an inadequate staff, we are attempting to provide technical and consultative services for the control of individual and semi-public water supplies.

JW:jep


John Wilford, P.E., Chief
Bureau of Potable Water

Enclosure

cc: Alex Corson, Public Information Office
Charles Kauffman, H. O., Ocean Co. Health Dept.
Donald Brown, Esquire

John -

Thank you for setting the facts out.

In my experience, it's impossible to achieve very high accuracy in the newspapers — largely because of the time pressures they are under.

You cc to H. O. Kauffman should help. (A letter to the editor rarely does.) Do you believe we should have a more regular channel of communication to H. O.'s generally? If so, what particulars would you favor?

DWB

19 June 1974

Officials Hit In Water Case Delay

The head of the state's drinking water regulatory agency has condemned Dover Township and Ocean County health officials for waiting six days before notifying 27 families that the wells for their homes had been contaminated by potentially hazardous petrochemicals.

John Wilford, chief of the Bureau of Potable Water, said the wells in question serve homes in a one-mile radius along Route 9 south of Toms River.

The contamination was discovered May 31, but residents were not told of the finding until last Thursday.

Although the contaminants have not been identified yet, Wilford said there was "no reason for this kind of delay. The potential health hazard demanded prompt action and it was not forthcoming."

The contaminants could possibly be cancer-causing substances and chemicals that can, when taken in high concentration, cause paralysis.

Dover Township officials have provided a water tanker for the families and county health officers are investigating the problem.

MZ

Del. S. L. News 4/23/76 C. A. Jones

DEP Tests for Water Pollution Spread

TOMS RIVER — A state Department of Environmental Protection (DEP) official says it is possible underground water pollutants have moved from one section of Dover Township to another.

Frank Markewicz, a geologist attached to the DEP's special services division, yesterday said tests will show whether contaminants, which forced the closing of some 148 wells in a section of Pleasant Plains, have polluted wells in the adjacent Dugan lane-Wallach drive area.

If evidence of pollution is found in the two series of tests, Markewicz said this would indicate the contamination is moving in a southerly or southeasterly direction. In that case, he said his section would recommend action be taken to remedy the problem in the affected area.

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n clearly defined and unneeded the hearing.
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History Park Press 2/18/72

Barrel Removal Continues In TR

l TOMS RIVER— Removal of
s barrels and drums of chemical
f wastes stored on the Reich
s property off Route 9 in Dover
e Township is continuing in an
1 orderly fashion, according to
3 Dover Township attorney
t Laurence Hecker.

t Hecker said the 4,500 barrels
and drums stored there, which
was discovered by township
officials some two weeks ago, had
to be sorted first as to content so
that they could safely be disposed
of elsewhere according to state
regulations.

a Hecker said the removal
e operation was being conducted
3 under the supervision of Deputy
Attorney General George

Gregory who is acting as the
representative of the state
Bureau of Solid Waste
Management.

The attorney said a hearing on
the show cause order he and
attorney Milton Gelzer for the
Reich's obtained for removal of
the flammable materials would
be held on March 1 before Ocean
County Judge Henry Wiley.



turning point of the Revolutionary War.

The site is sure to be a target of history-conscious

also like to make "people" shuttles available, as the jitneys and boardwalk trains of open

"Jitney service through the whole park would be a good idea," he said.

Pennsylvania's park covers 499 acres, New Jersey's 714. Parking in each is limited, though new lots are being constructed in both.

Mr. Guido said New Jersey would announce tomorrow a start on construction this week of a lot with 270 additional parking spaces, for a total of 800.

Improvements Scheduled

Other Bicentennial improvements to be started this week, he said, will be a new park entrance and road, as well as a foot bridge over Route 29, to link sections of the park divided by that highway.

Already under construction are a visitors center and a wall-size electronic map to illustrate with pushbutton lighting where Washington and his 2,400 troops crossed into New Jersey and proceeded to Trenton and Princeton.

For improved traffic control, five other New Jersey park entrances will be closed when the new one is opened. Mr. Guido put the cost of all improvements, including a new picnic area and restrooms, at \$950,000.

He said he hoped that a bridge-closing policy would be in effect before July 4 and that all construction would be completed by mid-July.

Dirk Van Dommelen, superintendent of the New Jersey park, said:

"We planned to have all these projects done before 1976, but lack of money held them up. They will be late, but better late than never."

The Pennsylvania park is also getting a late start on improvements. As a result, early Bicentennial visitors are seeing what is normally a pastoral scene disturbed by construction of a crushed-shale walkway, renovation of historic houses and a grist mill, and installation of new parking lots.

By MARTIN WALDRON
Special to The New York Times

TRENTON, April 25—A challenge by two state Assemblymen of the New Jersey Supreme Court's order to the Legislature to give \$378 million additional to public schools will be argued in Superior Court in Jersey City this week.

The Assemblymen, Carl A. Orechio, Republican of Nutley, and George J. Otowski, Democrat of Perth Amboy, said that giving more millions in state aid to schools would not provide pupils with the "thorough and efficient" education required by the State Constitution.

Their attorney, Ralph Fucetola 3d of North Arlington, said it had been shown in recent months that there was no correlation between the amount of money spent for education and pupil achievement.

This nullifies the Robinson v. Cahill suit, Mr. Fucetola said. This finding was the heart of the ruling by Judge Theodore I. Botter in Superior Court that public schools in New Jersey must provide all pupils the opportunity for equal education.

"The court should apply the latest informed opinion of the issue, and, in the words of a recent Harvard Education Review article, hold that 'per pupil expenditure has small and statistically insignificant effect on educational attainment,'" Mr. Fucetola said.

The Supreme Court held in February that the Public Education Act of 1975, which requires a set amount for each pupil in the state, would satisfy the requirements of the "thorough and efficient" education section of the constitution, if the 1975 law were fully financed.

It has been determined that this would require about \$378 million additional state aid to the poorer school districts of New Jersey.

Water Supply Pollutants In Dover Seen Widening

Special to The New York Times

DOVER TOWNSHIP, April 25—The New Jersey Department of Environmental Protection fears that pollutants that affected the underground water supply in a section of this township two years ago may be spreading.

Preliminary tests conducted last month by the township's Board of Health disclosed the presence of phenol, a petrochemical, in 13 private wells near Dugan Lane.

The area is adjacent to the Pleasant Plains section, where what is believed to have been chemical waste products forced the closing of 148 private wells two years ago. Until the most recent test, there was no indication that the pollutants had spread beyond Pleasant Plains.

Phenol was one of the 13 chemicals found in the Pleasant Plains water supply. Its discovery perplexed municipal officials because none of the 13 chemicals occur naturally in water.

In fact, the United States Environmental Protection Agency did not even have standards established listing the amounts that would be harmful.

About one mile from the Pleasant Plains section is a former chicken coop on State Highway 9 where thousands of gallons of chemical wastes were illegally stored by a private carter five years ago. Most wastes were stored in 55-gallon drums, and some drums leaked and many others were apparently emptied into a ditch. But officials have not been able to determine whether the drums were the source of the pollution.

The spread of the pollution to the 13 wells is not by itself dangerous. Officials ordered those wells closed, as they had

closed the ones in Pleasant Plains two years earlier.

After two years, however, officials are disappointed to see the signs of pollution returning and spreading because they still are not sure of the cause or the cure.

"We're taking some more tests now," said the spokesman for the Environmental Protection Department. "The level of pollution we find is what is going to be important."

He explained that the pollutants that existed in Pleasant Plains might not cause much of a problem if they were spreading without being replenished. That could happen trapped in the clay-like underground soil, were being moved by underground water.

If that is the case, the dilution, plus the fact that some of the pollutants are being left behind, should render the chemicals impotent before they can spread too far. Officials, therefore, expect, and hope, to find the chemicals in considerably less quantity in Dugan Lane than they were in Pleasant Plains.

Should the quantities prove to be similar, however, the officials would have to look for a new theory and a new solution.

The underground formations involved, called the English-town strata, are tapped by many municipalities for their public water supply. So far there has been no trace of these chemicals in any of the public water systems using the strata.

Meanwhile, residents of Dugan Lane have been advised not to use their well water for drinking or cooking. A National Guard tanker truck is parked in the neighborhood to provide fresh water.

New Jersey Briefs

25,000 Units to Get Rent Subsidies

The United States Department of Housing and Urban Development will subsidize 25,000 living units across the state. The units, new and renovated housing, will be scattered in urban, suburban and rural sections. The agency said it planned to spend more than \$95 million in rent subsidies for the living units.

While the housing itself is considered to be for middle-income tenants, the subsidized units will be available only to low-income families, according to a H.U.D. spokesman. State officials said the housing would be divided into two categories: about 20 percent for high-rise buildings split into small apartments for the elderly, and the remainder for

Bloomfield Opens Ear

Special to The New York Times

BLOOMFIELD, April 24 — Residents here began observing Earth Week today by hearing lectures, viewing environmental exhibits and learning about home care and gardening from volunteers.

The all-day program, held on the Bloomfield Town Green and sponsored by the Bloomfield Area Environmental Action Group, was the fifth such observance held here since 1971.

Charles Humphreys, president of the group, said:

"Our main objective is to create an awareness by the public of our environmental problems. More important, however, is to try to get our citizens involved in solving envi-



Wells Are Given EPA Clearance

TOMS RIVER — Results of tests conducted by the U.S. Environmental Protection Agency (EPA) on samples taken from Toms River Water Co. wells in the vicinity of private wells suspected of being polluted show they are safe.

Edward Hughmanic, water company district manager, said the test results, disclosed yesterday, indicate to him the utility's water supply is "just about the best you can get, short of distilled."

The samples were collected on Feb. 3 from the water company's parkway station near Dugan lane. The well field contains five wells which tap the Cohansey stratum and three which enter the deeper Kirkwood stratum. Hughmanic noted. Water samples were collected as the blended flow enters the utility's distribution system.

Tests were made on the samples for 20 substances, consisting of both inorganics and volatile organics.

Some of the tests were designed to detect some of the same contaminants which forced the closing of some 148 private wells in the Pleasant Plains section more than a year ago.

All tests came back well within recommended limits.

The utility's wells are near Dugan lane and Wallach drive where 13 families are relying on water from emergency tankers because the quality of their private wells is suspect.

Traces of phenol, a petroleum chemical, were found in some samples taken from wells and tested by a private laboratory commissioned by the Dover Township Board of

Health. The EPA did not test for phenol.

The board has recommended residents do not use their wells for cooking or drinking pending the results of more sophisticated tests being conducted now by the state Department of Environmental Protection.

The EPA tested for the presence of 10 organic substances: nitrate; cyanide; selenium; arsenic; barium; silver; cadmium; chromium; lead and mercury. Although traces of each were found, levels were lower than the maximum standards.

Hughmanic noted these substances are found naturally in water.

Tests also were made to detect 10 inorganic substances: chloroform; dichlorobromomethane; chlorodibromomethane; benzene; toluene; xylenes; trichloroethane; carbon tetrachloride and bromoform. Levels found were less than one-tenth per one part per billion.

Geologist Cites Risk of Deeper Water Tapping

Press State House Bureau
TRENTON — Water users in Dover Township can be thankful those contaminated wells that tap the relatively shallow Cohansey stratum do not also draw from the deeper Kirkwood aquifer.

Haig Kasanbach, supervising geologist of the Division of Water Resources, state Department of Environmental Protection, said such "double taps" probably would result in the spread of pollution to the lower aquifer when pumps were turned off. State officials have urged

that future wells tap the deeper stratum in Dover.

Kasanbach said "double — or multiple screening," as geologists call it, is prohibited in most cases by the state Water Policy and Supply Council. This process results in water flow along the well pipe from the highest pressure stratum to the lowest. The flow very often is from the shallow to the deeper level, Kasanbach added.

There was relatively little multiple screening in the state before the council adopted a policy banning it, Kasanbach said. One reason for the prohibition is the potential for spreading pollution, he said.

The multiple-screening process is named for the fine wire-mesh screens through which water is drawn into well pipes. It was used in the past in western areas of the state where supply and pressure in one underground stratum were insufficient. The practice is more common in states where underground water is not plentiful.

Even aside from the ban, the process has been uncommon in Central Jersey, including the Ocean County coastal plain, because of the plentiful supply in the Cohansey and Kirkwood strata, as well as the very deep Raritan aquifer in Monmouth County, and the additional cost of multiple taps.

Kasanbach said a double-screen well at the Cohansey, or water table, level and at the Englishtown aquifer in Monmouth or northern Ocean County, definitely would result in flow from the shallow to the lower level. That's because the Englishtown level, and thus pressure, has been dropping steadily for years, he said.

The geologist said some of his colleagues have proposed selective, deliberate multiple-screen "dry wells" in the Englishtown aquifer area in an attempt to recharge the aquifer.

State geologists have urged that future wells in Dover Township bypass the shallow Cohansey, now contaminated in the Pleasant Plains section, and go deeper into the Kirkwood.

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Code Orders Sealing Of Dover Wells

TOMS RIVER — Private wells which tap underground water supplies declared contaminated by the state will be permanently sealed.

Despite a last-minute protest by about 50 residents from the affected area, Pleasant Plains, the Dover Township Board of Health last night unanimously adopted an ordinance which orders the wells, 148 in number, to be sealed at the owners' expense and under board supervision.

The ordinance also imposes a ban on future well drilling in the area, where the state Department of Environmental Protection has found unacceptable levels of petrochemical and organic contamination.

Robert E. Combs, a lawyer representing a group called the Pleasant Plains Residents for Pure Water Association, asked the board to delay any action on the measure until the state completes its investigation into the pollution problem and has all the facts before it.

He also urged the board to amend its proposed ordinance to give affected property owners the option of using less expensive means to seal their wells than those advanced by the state.

Instead, after concluding a two-hour public hearing, the board passed a resolution amending the ordinance to make its language even tougher.

Originally, the stated purpose of the ordinance was to prevent possible use of contaminated well water for "domestic purposes." Some

residents who wanted to continue to use their wells for watering their lawns or filling swimming pools speculated that domestic use might include only drinking, washing, and cooking.

The board changed the phrase to encompass use of the water "for any purpose."

The ordinance originally referred to the "capping" of wells. State officials, though, have notified the board of the precise way the wells should be closed, and the word "capping" did not satisfactorily describe the method. The terminology was changed to "sealing."

According to Combs, the sealing method prescribed by the state could cost between \$450 and \$650, and this would pose a severe financial burden for well owners.

He advocated much simpler and more inexpensive methods to achieve the same end, such as sealing faucets.

He also noted that state geology reports say potable water can be obtained if wells bypass the contaminated water layer, known as the Cohansey formation, and tap the deeper Kirkwood formation.

It would be unfair not to give Pleasant Plains residents the opportunity to extend existing wells or install new ones, he asserted.

Mrs. Ruth Matthews, board president, responded that the same state geologists have recommended that no new wells be installed in the delineated area so as to minimize the chance of contamination spreading from one water formation to another.

Combs also disputed the board's authority to order the sealing of wells, contending that wells should not be sealed in such a manner that they never could be used again. Some residents felt they should be permitted to use the wells once the contamination dissipates.

The permanent sealing method was advocated by the state, Mrs. Matthews retorted.

Almost two weeks ago, John Wilford, chief of the state Bureau of Potable Water, sent the board a letter which stated the wells must be sealed in accordance with specifications set by state statute.

Prior to yesterday's board meeting, however, members conferred with Wilford and other state officials in Trenton, and were told of another less expensive sealing method.

Raymond A. Webster, supervising environmental engineer for the Bureau of Water Supply, Planning and Management, outlined the procedure, contained in the state administrative code, in a letter.

He stated the wells must be "sealed, after removal of pump, pipe and all obstructions by sealing off the casing with an impermeable plug set at least four feet below the top of the casing, followed by concrete, cement grout or neat cement.

"Twenty-four hours after sealing, to allow time for settlement, the top of the casing shall be filled with concrete and finished off to grade," he continued.

This method would cost between \$150 and \$200, the board estimated. The method prescribed by Wilford would have entailed filling the entire length of casing with material.

The ordinance affects wells located on both sides of the following streets: Route 9 from Monroe avenue to Church road; Church road from Route 9 to Old Freehold road; Clayton avenue from Route 9 to Whitesville road;

Cardona avenue from Clayton avenue to Sunset avenue; Monroe avenue from Route 9 to Clayton avenue; and the entire lengths of Webster road, Lena avenue, and Fritz drive.

The code's provisions will be enforceable until the Toms River Water Co. installs water mains in the area. The company was ordered to do so last week by the state Board of Public Utility Commissioners. Prior to the ruling, the utility estimated such a project would take between a month and a month-and-a-half to complete.

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Dover Well

*Cerwin
Welford*

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Seals Ordered

By PATRICIA HANLON
Staff Writer

TOMS RIVER— All wells in the delineated section of Pleasant Plains must be closed and sealed when the public water supply begins, the Dover Township Board of Health decided Monday night.

The board voted unanimously to adopt an ordinance requiring the action, to be undertaken at the expense of each property owner, after amending the original ordinance to drop the term "capping" and change it to "sealing," which would save the homeowners money.

Ruth Matthews, chairman of the board, said she had learned a more economical method of closing the wells from Raymond Webster, Bureau of Potable Water Planning and Management, while attending a meeting in Trenton earlier Monday with the state Department of Environmental Protection.

Webster's letter described a method where the wells could be sealed by inserting a impermeable plug at least four feet into the casing below the ground. The pump and pipe would have to be removed and the plug in the casing would be inserted covered with cement.

This procedure would cost each homeowner at least \$100, substantially less than the capping method which would fill the entire casing with concrete, estimated at between \$450 to \$600 a home.

Robert A. Coombs, attorney representing the Pleasant Plains Residents for Pure Water, objected to the new method as being a financial hardship in view of the fact the residents would have to pay for the water line from their house to the main line when the Toms River Water Co. provides its service.

The Pleasant Plains residents being serviced by the Toms River Water have already received some financial relief.

The Board of Public Utility

Commissioners Thursday ordered the water company to install the lines at no cost to the residents since the

(Continued From Page 1)

township and county agreed to re-surface their roads after construction, cutting the construction costs to the water company.

Residents in the audience argued for more than two hours against the ordinance. They asked the board to wait until all tests and probes were completed delineating the entire area in the township discovered in July to be contaminated by petrochemical and organic

pollution.

They argued that a statement by Mrs. Matthews that the state hoped the water supply affecting the private wells would purge itself clean in two, three or five years, was reason enough not to shut off the wells completely.

They wanted a temporary measure where the faucets or pipes into the homes could be cut off temporarily without rendering the wells useless.

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Corwin

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Ocean well cleansing could be costly process

THE STAR-LEDGER, Thursday, August 27, 1974

By TERRY CONNELLY

A costly and time-consuming water table purge may be necessary to remove a petrochemical pollutant from more than 160 private wells in Ocean County, state environmental protection officials said yesterday.

The suggestion was made after Dover Township and county representatives met with Rocco Ricci, assistant DEP commissioner, to explore means of pinpointing the problem, which has contaminated the underground aquifer and made well water unfit for humans in what may be more than a five-mile area of the township.

Ricci promised local officials the DEP would assign a 20 student team from Newark College of Engineering to the project to determine how widespread the pollution is and also to make available information from private testing laboratories if needed.

Assemblyman John P. Doyle (D-Ocean), who accompanied Mayor Ethel Zaun of Dover Township and Charles Kauffman, Ocean County health coordinator, said the DEP also promised to have the engineers' report ready by the end of September.

"We met for more than three hours and I feel now we may be able to piece together

enough information to finally bring this complex and frustrating problem to an end," Doyle said.

Several testing firms, including Union Carbide Corp., have tested the water and found several compounds of petrochemical substances, but none has been able to determine the source.

When the contamination was first discovered in June by Kauffman by a routine well test, it was believed that several hundred inactive chemical drums — owned by Union Carbide — stored or buried on a chicken farm in

(Continued from Page One)

the area, may have been the source.

"But the fingers are not being pointed at the firm so directly now," said Doyle.

"At this point, no one knows for sure what caused the contamination," he added.

Doyle said the engineering team would "go into high gear to advise the township as soon as possible of the scope, source and solution."

The student engineer program is being developed in conjunction with the State Bureaus of Geology and Potable Water. The senior students have agreed to contribute their time during the fall semester.

Because of the cost, only estimated as expensive, of the aquifer purge, Mrs. Zaun said she hoped the engineers could recommend an alternate but less-costly method to insure the well water was purified.

Last month the state condemned the wells and residents and businesses have been filling their cooking and drinking water needs through National Guard tank trucks stationed at strategic points in the Pleasant Plains section of the township.

1 INCH = 2000 FT

